

Application No.:09/822,531
Amendment dated: February 13, 2004
Reply to Office Action of November 14, 2003

RD-26589-2

REMARKS/ARGUMENTS

This case has been carefully reviewed in light of the Office Action dated November 14, 2003, wherein claims 1-3, 6-44 and 47-56 were rejected, and an earlier rejection of claims over Shalyaev et al. (U.S. Patent No. 6,566,295) was withdrawn. Claims 1-3, 6-44 and 47-56 were rejected under 35 USC 103(a) as being unpatentable over Buysch et al. U.S. Patent No. 5,856,554; Buysch et al. U.S. Patent No. 6,548,445; and Hesse et al. WO 00/37419; each taken alone or in combination with each other or each in view of the teachings in Mizukami et al. US Patent No. 5,380,907; or Pressman et al. U.S. Patent No. 6,114,564. Because Hesse et al. WO 00/37419 was not in English the Examiner referred to its U.S. equivalent U.S. Patent No. 6,605,191.

In response to the November 14, 2003 Office Action claims 1-3, 6-32 and 42-43 and 47-56 have been cancelled. Claims 4, 5, 45, and 46 were previously cancelled in a Response dated February 2, 2003. Claims 34 and 38 have been amended. Claims 33, 34 and 41 remain pending in this application.

The Applicants have strenuously argued in previous responses that the claims as originally presented and as later amended recite patentable subject matter over the references cited by the Examiner, but have as yet failed to move the Examiner to this view. The Applicants concede that the subject matter of the instant invention (which features an effective start up procedure for conducting a carbonylation reaction) is subtle. It is the Applicants' hope that by limiting the number and nature of the claims to a critical few that the differences between the instant invention and the known methods cited by the Examiner will become more apparent. Each of the remaining claims of the instant invention is discussed below and is compared to the cited prior art. For the reasons detailed below, the rejection of each of claims 33, 34 and 38 under 35 U.S.C 103(a) is respectfully traversed.

The Applicants' claim 33 recites a method for making a diphenyl carbonate in which a mixture of phenol and a particular carbonylation catalyst system is heated to a temperature in a range of between about 72°C and about 90°C. This mixture is then

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exposed to carbon monoxide. Subsequently the mixture is exposed to a mixture of oxygen in carbon monoxide wherein the concentration of oxygen is greater than about 8 molar % based on carbon monoxide. Additional steps (v-vii) are recited but for the purposes of this discussion they will be ignored. Of all of the references cited by the Examiner, only the Mizukami patent discloses a process step in which a reaction mixture is first exposed to an atmosphere of carbon monoxide prior to the introduction of a mixture of carbon monoxide and oxygen. In Mizukami et al. Example 1 (col. 4, lines 50-61) the phenol, carbonylation catalyst system and nitrile solvent are charged to a reactor, the inside of the [reactor] system was "replaced" with carbon monoxide, and then a mixture of carbon monoxide and oxygen (about 8 mole % O₂ based on the partial pressure of oxygen given) "were charged at room temperature." It must be stressed that Mizukami et al. disclose these steps as being carried out at "room temperature" (See Mizukami et al. Examples 2-18 as well). Applicants' claim 33 recites that these steps are initiated at a temperature "between about 72°C and about 90°C" and that the reaction mixture is maintained "under pressure of carbon monoxide for a time period" prior to the introduction of a mixture of carbon monoxide and oxygen wherein the oxygen is present "at a concentration of greater than about 8 molar % based on carbon monoxide". Thus, the specific limitations recited by Applicants' claim 33 are neither disclosed nor suggested by Mizukami et al. nor any by any combination of the other references cited. For these reasons the Applicants respectfully request that the rejection of claim 33 under 35 U.S.C. 103(a) be withdrawn.

The Applicants' claim 34 recites a method for making a diphenyl carbonate in which a mixture of phenol and a carbonylation catalyst system is heated to a temperature "between about 72°C and about 90°C" and is then pressurized with carbon monoxide. The mixture is then heated "to a desired ultimate temperature." The "ultimate temperature is defined in the specification as being in a range between "50°C and about 150°C" (i.e. well above room temperature, See paragraph [0046] page 17). The mixture is then maintained "under pressure of carbon monoxide for a time period" before the introduction the carbon monoxide-oxygen mixture. Again, these process steps are neither disclosed nor suggested by Mizukami et al., and neither are these process steps disclosed

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by any combination of the references cited. For these reasons the Applicants respectfully request that the rejection of claim 34 under 35 U.S.C. 103(a) be withdrawn.

The Applicants' claim 38 recites the limitations of claim 33 and the further limitation in the form of a proviso that "the solvent for the reaction mixture before the introduction of oxygen consists of the aromatic hydroxy compound". For the reasons given for claim 33 the Applicants respectfully request that the rejection of claim 38 under 35 U.S.C. 103(a) be withdrawn.

In response to the Examiner's concern about the use of "comprising" in the recitation of the elements of their invention, the Applicants remind the Examiner that the use of "comprising" language when describing process steps does not preclude patentability provided the process steps so recited are material, and are neither disclosed nor suggested by the prior art. The Applicants urge that the limitations recited in claims 33, 34, and 38 are material, are neither disclosed nor suggested by the prior art, and appropriately limit the scope of the claimed method.

In view of the foregoing, Applicants respectfully request reconsideration and prompt allowance of claims 33, 34 and 38. Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number below.

Respectfully submitted,



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